Exhibit No.:
Issues: Year 2000 Cost
Other Computer Costs
Decommissioning Deposits
Witness: Arlene S. Westerfield
Sponsoring Party: MoPSC Staff
Type of Exhibit: Schedules to Surrebuttal Testimony
Case No.: EM-96-149

MISSOURI PUBLIC SERVICE COMMISSION

UTILITY SERVICES DIVISION

SCHEDULES TO SURREBUTTAL TESTIMONY

OF

ARLENE S. WESTERFIELD

UNION ELECTRIC COMPANY

CASE NO. EM-96-149

Exhibit No. 6
Date 6-1-99 Case No. EM-96-1
Reporter nt

Jefferson City, Missouri
April, 1999

NP

****Denotes Highly Confidential Information****

SCHEDULE 1

No. 35

DATA INFORMATION REQUEST
Union Electric Company
CASE NO. EO-96-14

Requested From: Dave Wucher
Date Requested: 06/29/98
Information Requested:
The company has indicated "Year 2000" costs being charged to expense. Please explain the basis for charging these costs to expense (cite GAAP).

Requested By: MIKE GRUNER

Information Provided:
See Attached.

The attached information provided to the Missouri Public Service Commission Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the Missouri Public Service Commission Staff if, during the pendency of Case No. EO-96-14 before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information.

If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the Union Electric Company office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title, number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies of data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control within your knowledge. The pronoun "you" or "your" refers to Union Electric Company and its employees, contractors, agents or others employed by or acting in its behalf.

Signed By: D L Wucher

Date Response Received: ____________

Prepared By: D L Wucher

Schedule 1-

EITF Abstracts

Issue No. 96-14

Title: Accounting for the Costs Associated with Modifying Computer Software for the Year 2000

Date Discussed: July 18, 1996

References: FASB Statement No. 5, *Accounting for Contingencies*
FASB Statement No. 86, *Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed*
FASB Concepts Statement No. 2, *Qualitative Characteristics of Accounting Information*
FASB Concepts Statement No. 6, *Elements of Financial Statements*
APB Opinion No. 17, *Intangible Assets*
APB Opinion No. 20, *Accounting Changes*

ISSUE

Many computer systems process transactions based on storing two digits for the year of a transaction (for example, "96" for 1996), rather than a full four digits. A significant number of the computer systems based on two-digit years are not programmed to consider the start of a new century, unless they have been recently modified. Systems that process year 2000 transactions with the year "00" may encounter significant processing inaccuracies and even inoperability. Many companies will incur significant costs to make the needed software changes.

This Issue is limited to the upgrading of existing internal-use software for the year 2000 and does not address purchases of hardware or software that replace existing software that is not year 2000 compliant. This Issue also does not address impairment or amortization issues relating to existing assets.

The issue is how to account for the external and internal costs specifically associated with modifying internal-use computer software for the year 2000.

EITF DISCUSSION

The Task Force reached a consensus that external and internal costs specifically associated with modifying internal-use software for the year 2000 should be charged to expense as incurred.

Schedule 1-2

STATUS

At the July 23-24, 1997 meeting, the SEC Observer stated that the SEC staff has been asked to clarify a recent SEC *Report to Congress* regarding the year 2000. This report notes that the Task Force has addressed the accounting for this issue and concluded that costs incurred to modify computer software to correct year 2000 problems should be expensed as incurred. This report also refers to Statement 5 as guidance for loss contingencies that might result from a failure of an entity's computer system in the year 2000. It has been suggested that this reference to Statement 5 suggests that the staff would permit or require accrual of expected future costs to modify software for year 2000 problems. That suggestion is not correct.

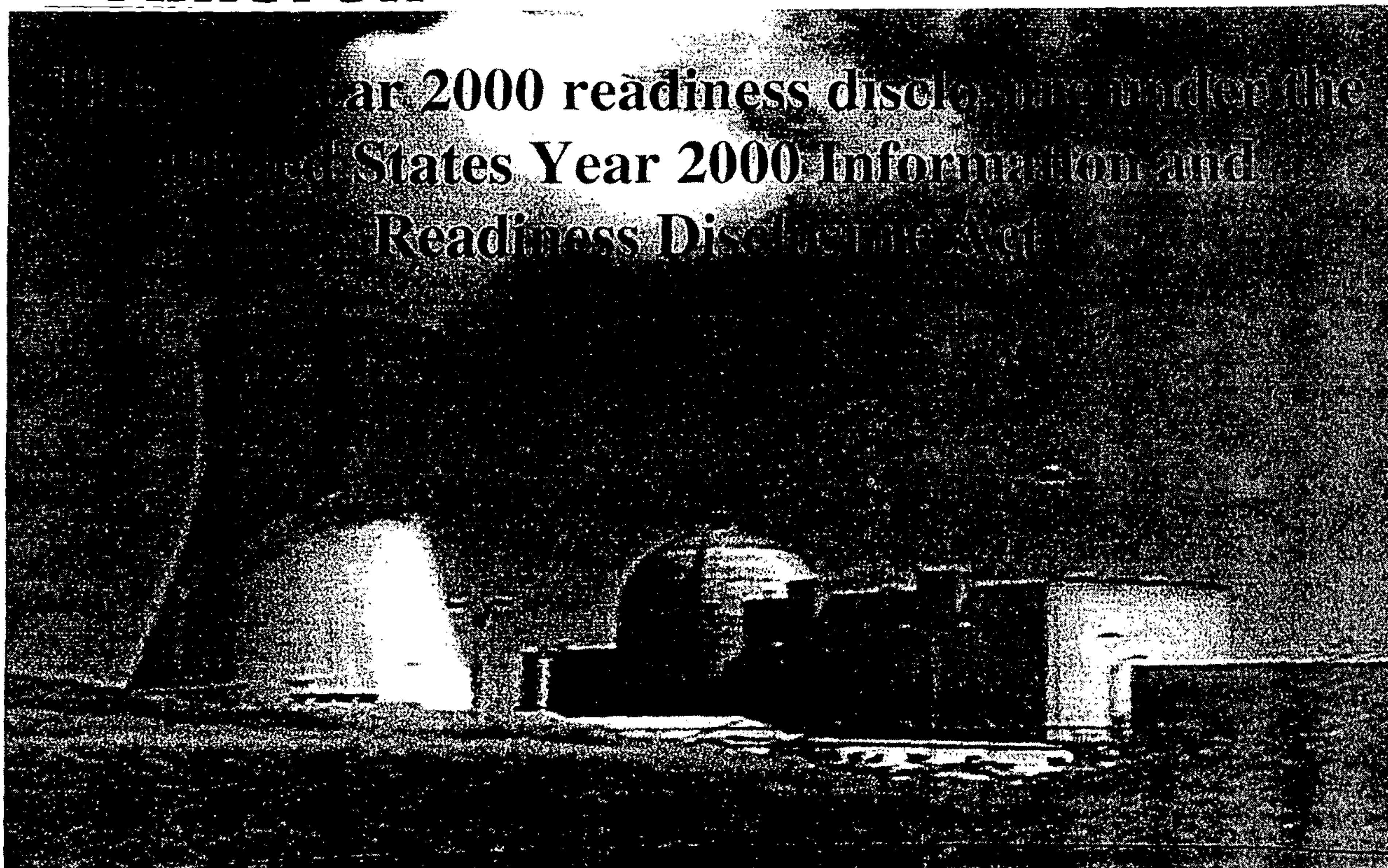
The SEC Observer noted that expected future costs to modify software for year 2000 problems are not a current liability under Statement 5 and that the reference to Statement 5 in the *Report to Congress* should not be used to override the guidance provided by the Task Force. The staff would object to the accrual of the costs of year 2000 modifications before those costs are incurred.

No further EITF discussion is planned.

SCHEDULE 2

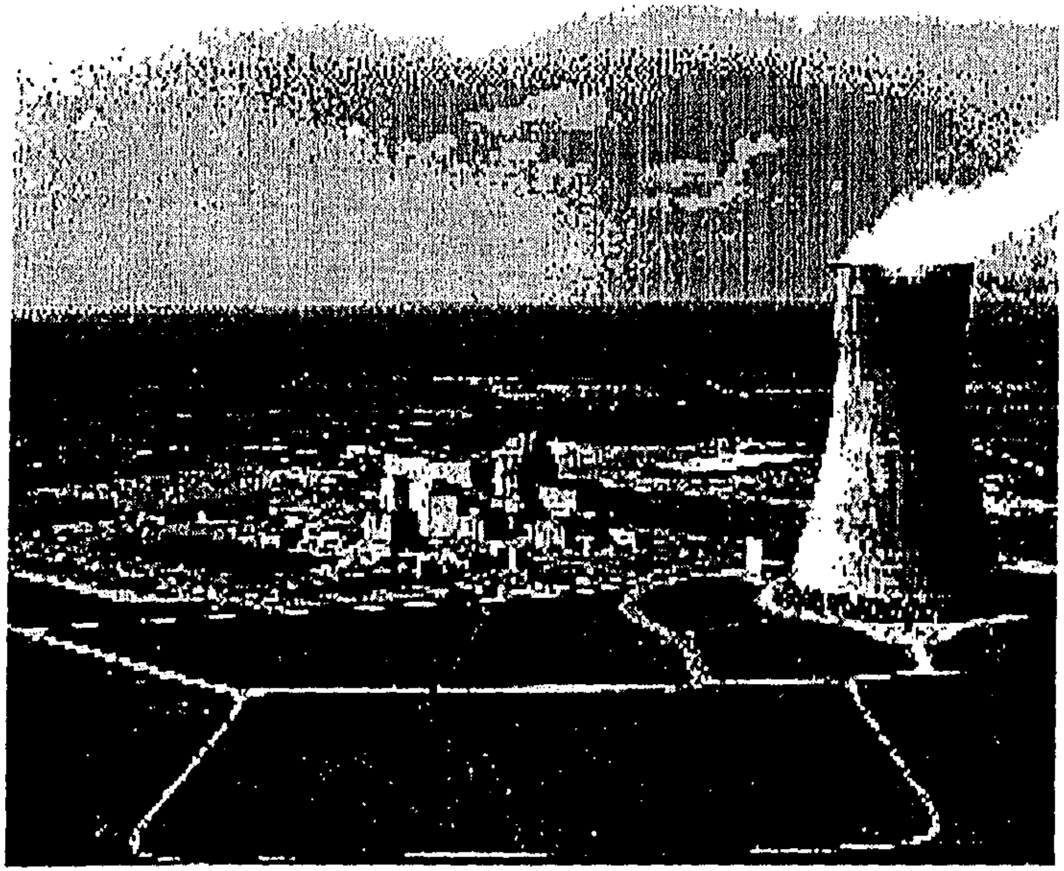
Ameren

Year 2000



Schedule 2-1

Ameren Year 2000 Project Management



- Nuclear Safety
  - **Terry Baxter**
- Callaway Y2K Status
  - **Michael McCrady**
- Ameren Y2K Status
  - **Winston Freund**

- Regulatory Agencies
  - NRC - Letter from the Office of the Secretary (SECY 97-213) states "safety-related initiation and actuation systems are not subject to the Year 2000 concern."
  - NEI/NERC/NUSMG, after 14 months of data collection, have no issues that contradict the SECY letter.

Ameren

Nuclear Safety

- NRC Y2K Audits have uncovered **NO** Y2K issues associated with any component necessary for Safe Shutdown.

- September 1998
  - Monticello, Minnesota
  - Seabrook, New Hampshire
  - Brunswick, North Carolina
- October 1998
  - Hope Creek, New Jersey
  - Davis Besse, Ohio
- November 1998
  - Wolf Creek, Kansas
  - Watts Bar, Tennessee
  - Limerick, Pennsylvania

Ameren

Nuclear Safety

- Comparisons with other facilities and industry databases help assure no safety components were missed.
  - Wolf Creek (Sister Plant)
  - NEI
  - NRC
  - IEEE
  - EPRI
  - INPO
  - NUSMG
  - NERC

- NRC requires reports (as specified in Title 10 CFR Part 21) from nuclear power plants when a facility, activity, or basic component fails to comply with the *Atomic Energy Act of 1954*, as amended, or other NRC regulations.

THERE HAVE BEEN NO REPORTS FILED

AS A RESULT OF Y2K!

- Callaway Nuclear Power Plant
  - 1960s Design
  - 1970s Construction
  - Primarily Analog
    - Plant is old enough that it is an analog designed Plant, but is new enough not to have had many digital upgrades

Ameren

Nuclear Safety

- Callaway, like all other nuclear power plants, is required to implement and maintain a tested emergency plan (EP)
- Many of the hypothesized Y2K scenarios would cause the same problems for which the EP was developed and personnel trained to mitigate
- The EP is drilled and tested annually and is evaluated by the NRC at least once every two years

Ameren

Nuclear Safety

- Westinghouse (nuclear supplier) is performing an independent assessment of selected safety systems and has found no Y2K issues to-date.
- All Project data collected by EPRI, NEI, NERC and Callaway continues to support the NRC's SECY-97-213 Letter indicating there are **NO** Y2K related safety issues.

- Callaway's Year 2000 Project began Software Remediation in 1986
- Year 2000 Hardware Remediation began in the Fall of 1996

Ameren

Nuclear Safety

- Nuclear power, as of November 30, 1998
  - 43 internal QA audits completed
  - 22 cross utility audits completed
  - 39 independent 3rd party audits completed
  - 10 audits in progress or scheduled near term
  - 12 NRC audits conducted or scheduled

No Safety Issues have been found

- The Callaway Y2K Program has been internally audited by the nuclear Quality Assurance Department.
  - No major weaknesses
  - Program is in accordance with NEI/NUSMG 97-07 Year 2000 document
  - No safety issues

Callaway Y2K Status

- ~30% AmerenUE Power (MO)
- No issues identified that could force a shutdown or affect safety of the plant
- Callaway will be Y2K Ready (online and safe)
- NRC Report due 7/1/1999
  - Where at and what is left to do
  - We expect to be ready by report date

Callaway Y2K Status

- 73 % complete overall
- 96 % complete with mission critical items*
- 100 % complete with mission critical by end of year

* NERC Definition: misoperation of the item could directly contribute toward a loss of a 50MW or larger generating resource. (North American Electric Reliability Council)

Year 2000 Organization Chart

Executive Steering Committee

Program Management Team

Function Area Teams
30 Teams

What does Year 2000 compliance mean?

- *"Year 2000 compliant components are capable of correct identification, manipulation, and calculation using dates through the millennium transition into the 21st century."*

What does Year 2000 readiness mean?

- *"Year 2000 ready components have been determined to be suitable for continued use into the 21st century even though the component is not fully Y2K compliant. "*

Missouri Public Service Commission

Case No. OO-99-43

-- Original Question --
What is the date at which you expect to be fully Year 2000 compliant?

--------- Original Response ---------
We do not expect to be fully compliant. There are certain components and applications that are not mission critical and that we will let fail, such as a FAX machine.

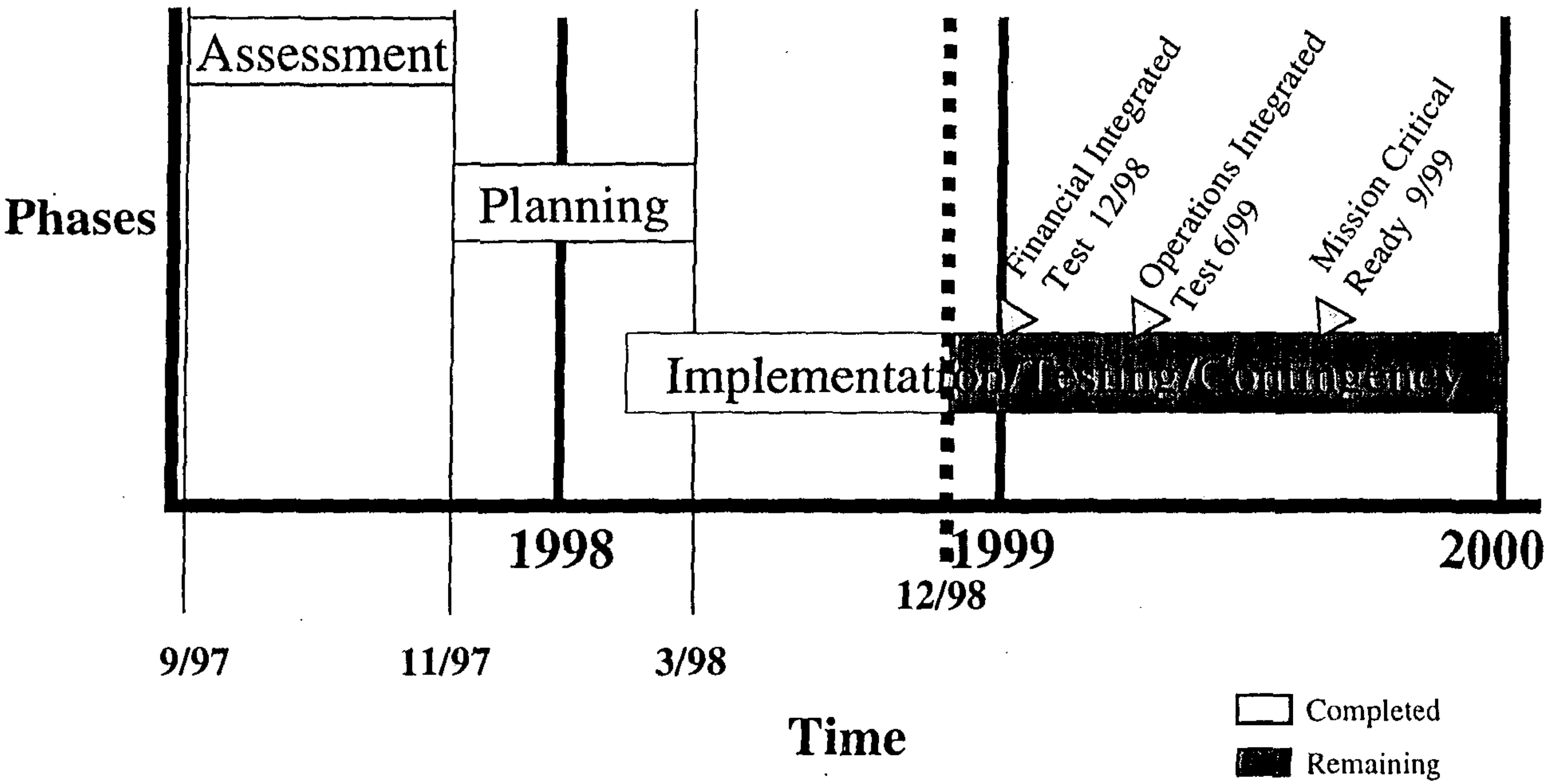
------ Result Field ------
Planned Date for Year 2000 Compliance

---------- Result Response ----------
Ameren does not plan to be fully compliant

Year 2000 Phases

Assessment → **Planning** → **Implementation**

Project Phased Approach



Ameren

Ameren's Phases

Assessment — Planning — Implementation

Objectives

- Determine the overall scope and scale of impact of the Year 2000 issue
- Identify components which are not Year 2000 compliant
- Provide a strategic view of what needs to be done, when, and how.
- Determine the approximate level of effort required to solve the Year 2000 issues

Assessment — Planning — Implementation

Objectives

- Break the overall program into a set of separately schedulable and manageable projects
- Develop work plans for the identified projects
- Establish management and development processes
- Establish standards and identify tools

Ameren

Ameren's Phases

Assessment — Planning — Implementation

Objectives

- Establish a common framework under which the project will proceed and confirm the scope against which the project will be managed
- Achieve consensus among the project team, users, and management for the objectives, roles, constraints, and assumptions for the project
- Analyze and modify programs so that they will continue to operate correctly
- Review and create contingency plans
- Validate and implement changes

STATUS

Assessment Phase	-	100% complete
Planning Phase	-	100% complete
Implementation Phase	-	45% complete (overall as of 12/1)
	-	38% complete (mission critical)*

* NERC Definition: misoperation of the item could directly contribute toward a loss of a 50MW or larger generating resource. (North American Electric Reliability Council)

Ameren

Upcoming Events

- **Contingency Plans**
  - **12/31/1998 - First Draft of operational plan submitted to MAIN***
  - **3/31/1999 - First draft of integrated corporate-wide plan**
- **Industry-wide drills**
  - **4/8/1999 - 4/9/1999**
  - **9/8/1999 - 9/9/1999**

* Mid-America Interconnected Network, Inc. (MAIN)

SCHEDULE 3

Ameren Services

One Ameren Plaza
1901 Chouteau Avenue
PO Box 66149
St. Louis, MO 63166-6149
314.621.3222

AMEREN YEAR 2000 STATEMENT

September 1998

The managements of AmerenUE and AmerenCIPS have taken significant steps and continue to take steps in an effort to make our corporate systems and equipment Year 2000 compliant.

The Year 2000 effort has been underway for more than a year. In 1997, we created a formal corporate-wide Year 2000 Program Management Team. In the last quarter of 1997, we completed building an inventory of all date sensitive electronic hardware, software applications and embedded systems. Many of the major corporate computer systems at Ameren are relatively new and therefore are either Year 2000 ready or require minor modifications. In addition, we have contacted hundreds of vendors and suppliers to verify compliancy.

We have spent multiple hours developing and refining work plans for the purpose of addressing the myriad of issues and concerns involved in this project. Contingency plans are also being created for critical systems.

All of the above issues are being aggressively pursued by Ameren's corporate-wide Year 2000 Program Management Team, led by Ameren's Information Technology group. Both internal and external resources are being utilized to address Year 2000 compliance and we feel that Ameren is on schedule to complete its Year 2000 project.

We understand your concern regarding the Year 2000 problems. We also feel these are serious issues and are working diligently to prepare for the turn of the century. If you access to the Internet, please visit our web page at www.ameren.com for future disclosures regarding our Y2k efforts.

Sincerely,

The Year 2000 Program Management Team

ATTACHMENT A

Schedule 3-1

SCHEDULE 4

No. 78

DATA INFORMATION REQUEST

Union Electric Company

CASE NO. EO-96-14

Requested From: Gary Weiss

Date Requested: 11/04/98

Information Requested:

Per our verbal request on October 22, 1998 please provide the following as soon as possible:

1. Total AMWRAPS expensed for the 3rd credit period for Ameren UE-Missouri Electric.

2. Total CSS expensed for the 3rd credit period for Ameren UE-Missouri Electric.

3. Total Y2K expensed for the 3rd credit period for Ameren UE-Missouri Electric.

4. Total EMPRV expensed for the 3rd credit period for Ameren UE-Missouri Electric.

Requested By: ARLENE WESTERFIELD

Information Provided:

1. $1,770,283 AMRAPS Cost Charged To AmerenUE Electric O+M for the 12 Months ended June 30, 1998.

2. $9,984,000 CSS Cost charged to AmerenUE Electric O+M for the 12 months ended June 30, 1998

4. $530,395 EMPROV cost charged to AmerenUE Electric O+M for the 12 months ended June 30, 1998.

3. See Attached

The attached information provided to the Missouri Public Service Commission Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the Missouri Public Service Commission Staff if, during the pendency of Case No. EO-96-14 before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information.

If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the Union Electric Company office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title, number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies of data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control within your knowledge. The pronoun "you" or "your" refers to Union Electric Company and its employees, contractors, agents or others employed by or acting in its behalf.

Signed By: ______________________

Date Response Received: 11/10/98 [initials]

Prepared By: ______________________

Ameren UE
MPSC CASE NO. E0-96-14
RESPONSE TO MPSC STAFF DATA REQUEST NO. 78

3. The total external costs were $1,042,700 for the Yr. 2000 project for the third sharing period as provided in response to MPSC DR No. 46. The amount that is applicable to AmerenUE Missouri Electric is not available. The Yr. 2000 project is being completed by numerous teams. The teams are not divided by corporation, but are by function. Therefore various teams cost would be allocated differently to AmerenUE, AmerenCIPS, and Ameren Services.

SCHEDULE 5

STATE OF MISSOURI
PUBLIC SERVICE COMMISSION

At a Session of the Public Service Commission held at its office in Jefferson City on the 18th day of August, 1998.

In Re the Matter of an Investigation Into Public Utility Preparedness for Year 2000 Conversion.	)))	**CASE NO. OO-99-43**

ORDER ESTABLISHING CASE

There are only 500 days remaining until the year 2000. Numerous recent reports, including one study just released by the Senate Special Committee on the Year 2000 and another undertaken by the National Regulatory Research Institute, show utility companies lagging behind in their preparedness for the change in millennia. As the immovable deadline approaches, the Commission has determined that the focus must change from technical compliance to actual business readiness. The Commission must ensure that the utility industry remains ready to serve Missouri's ratepayers into the next century.

The year 2000 date field exists primarily within computer software and presents an ubiquitous problem which, if not properly addressed, could cause disastrous results. The year 2000 (Y2K) problem occurs in three different areas: two-digit date storage, leap year calculations, and special meanings for dates.

The most common problem is the two-digit date storage wherein a date is entered using only two digits each for the month, day and year (MM/DD/YY or 08/18/98). The two-digit date convention assumes that the century is "19." Thus, 98 equals 1998 and 99 equals 1999. However, 00 may indicate to most computers the year 1900. When the calendar reaches January 1, 2000, these systems may produce nonsensical results, or shut down (crash) because they will read the date 00 as 1900 rather than 2000.

Leap year calculations are complicated by the fact that the rules for leap year calculations suggest that a year is a leap year if it is divisible by four, but if it is divisible by 100 it is not a leap year. However, the year 2000 is a special case leap year which occurs only once every 400 years. It is not clear that software programs in existence will recognize this fact.

Lastly, Y2K solutions must address special meanings for dates. In order to write more efficient code, which allowed for the use of less memory, many date fields were also used to provide special functionality. The most common date used for this was 9/9/99. This code was used in some applications to indicate "save this data item forever" or "remove this data item automatically after 30 days." The specific meaning for this code varies by organization and software application. The solution for 9/9/99 obviously cannot wait until the year 2000. Data entries which refer to September 9, 1999 will invoke this problem.

Illustrations of the potential magnitude of the Y2K problem may be found in each industry. For instance: a five minute telephone call placed just before midnight on December 31, 1999, may be billed as a million-minute call, lasting from 1900 to 1999 because of software inabilities to distinguish between the year 1900 and the year 2000.

Another example of the potential damage may be demonstrated by the way in which electric utility companies conduct their business using the World Wide Web. In April 1996, the Federal Energy Regulatory Commission (FERC) issued an order directing all electric companies to build web sites to allow wholesale electric customers to shop and place orders freely. This FERC order resulted in the establishment of "Open Access Same-time Information Systems" (OASIS) web sites. The ruling mandated that public electric utilities use the web to give wholesale sellers and purchasers equal access to information on transmission availability and pricing. Using the web to open up the reservation process was a key part of deregulation and it has been estimated that between $25 to $50 billion worth of transactions were conducted over the Oasis system(s) in 1997. A Y2K induced crash could put the entire electric utility network at risk.

Even if such disasters are averted, a failure to respond in advance may still result in adverse impacts on Missouri's ratepayers. The failure to deal with the Y2K problem in a timely manner may mean that the costs to correct this problem become unreasonably high when the issue must be dealt with, and corrected, on an emergency basis. The Commission must ensure that if any such inefficiencies occur, they are not passed on to Missouri's ratepayers. However, it would be premature to use this case to determine whether the costs for Y2K correction should be borne by the shareholder or the ratepayer. Federal Communications Commissioner Michael Powell recently characterized that issue stating that "Such squabbling will suck up precious time we don't have. The time to fight those battles is in 2001, not now." While the cost issue may not need to be delayed until 2001, it is clear that the first order of business is avoiding any interruption in utility service to Missouri's ratepayers. Once that goal has been accomplished, assessing reasonable and prudent expenditures will be much more clear.

The Commission initially addressed this matter with a survey it sent to all regulated utilities in February of 1998. That survey requested information from each utility regarding actions taken to become Y2K compliant. In addition to this survey, additional information was requested from all electric providers that have nuclear generation to ensure Y2K compliance. The Commission Staff also requested specific information from telecommunications utilities that provide 911 emergency service to ensure their systems are Y2K compliant as well. Unfortunately, some responses were incomplete or, in some cases, simply were not provided and the time to await voluntary compliance has passed.

Therefore, the Commission has determined it appropriate to open this investigatory case so that it may ascertain the state of preparedness of all regulated utilities within the state of Missouri as well as municipalities, cooperatives and all other utility entities which come under the jurisdiction of the Commission for the purpose of safety. The Commission will direct every such entity to file with the Commission a completed and verified copy of the attached preparedness survey. Thereafter, the Commission will ascertain the need for hearings or for additional filings as may be appropriate. The Commission is aware that many utilities have already responded. Those entities may simply verify their survey as required herein and complete the additional questions. Any entity which has been ordered to submit a report on Y2K readiness to the FERC, Federal Communications Commission (FCC), or the Nuclear Regulatory Commission (NRC) should provide a copy of those same reports to the Public Service Commission.

The Commission does not intend to interfere with the utility companies on how they conduct their business on a daily basis. The courts have held that the Public Service Commission's authority to regulate does not include right to dictate the manner in which the utility company shall conduct business. State ex rel. Public Service Commission v. Bonacker, 906 S.W.2d 896, 899 (Mo Ct App 1995) and the Public Service Commission has no authority to take over general management of any utility. State ex rel. Laclede Gas Co. V. Public Service Commission, 600 S.W.2d 222 (Mo.App. 1980). However, the Commission does have the jurisdiction and authority to ensure public safety and the safe provision of utility services from both regulated utilities and non-regulated utilities. A number of statutory sections, as well as decisions on the Missouri courts address this. Generally stated, "The power of the public service commission is an exercise of the police power of the state granted by the lawmaking power to that tribunal and overrides all contracts, privileges, franchises, charters, or city ordinances." State v. Public Service Commission of Missouri, 50 S.W.2d 114 (Mo. 1950). See also, Sections 386.310 and 393.140 RSMo 1996.

The top priorities by utility companies should include the following activities: conversion and testing of all, not just "critical" systems; assessing Y2K compliance of all external contractors, vendors and other business partners; assessing and acting upon all other supply chain issues; and, lastly, developing contingency plans.

IT IS THEREFORE ORDERED:

1. That case number OO-99-43 is established for an Investigation Into Public Utility Preparedness for Year 2000 Conversion.

2. That every utility which has been certificated by the Missouri Public Service Commission to provide service in the State of Missouri shall complete and file the Entry Of Appearance form attached to this order with and file it with the Secretary of the Commission, P.O. Box 360, Jefferson City, Missouri 65102, not later than September 2, 1998.

3. That every utility which is not certificated by the Missouri Public Service Commission but which is subject to the jurisdiction of the Missouri Public Service Commission for the purposes of safety shall complete and file the Entry Of Appearance form attached to this order with and file it with the Secretary of the Commission, P.O. Box 360, Jefferson City, Missouri 65102, not later than September 2, 1998.

4. That every party to this case shall complete the attached survey and file it with the Secretary of the Commission, P.O. Box 360, Jefferson City, Missouri 65102, not later than September 17, 1998.

5. That any party to this case which has previously filed documentation regarding Year 2000 with the Federal Energy Regulatory Commission, Federal Communications Commission, or the Nuclear Regulatory Commission shall provide a copy of those same reports to the Public Service Commission not later than September 17, 1998, and shall continue to provide copies of all such filings in the future to this commission.

6. That this order shall become effective on August 28, 19989.

BY THE COMMISSION

Dale Hardy Roberts

Dale Hardy Roberts
Secretary/Chief Regulatory Law Judge

(S E A L)

Lumpe, Ch., Crumpton, Drainer,
Murray and Schemenauer, CC., concur.

Roberts, Chief Regulatory Law Judge

In Re the Matter of an Investigation Into Public Utility Preparedness for Year 2000 Conversion.))) **CASE NO. OO-99-43**

ENTRY OF APPEARANCE

Comes now (name of attorney) and enters his/her appearance on behalf of (name of utility/entity) in Case No. OO-99-43.

The Year 2000 coordinator for the above-named company, who has primary responsibility for Year 2000 conversion and readiness, is

Name
Title
Address
Telephone #
Fax
E-mail

Attorney signature
MoBar number
Address
Telephone
Fax
E-mail

Attachment A: Entry of Appearance

(Please feel free to supplement this entry with the same data on Disk in Word or Wordperfect format)

In Re the Matter of an Investigation Into)
Public Utility Preparedness for Year 2000) **CASE NO. OO-99-43**
Conversion.)

Missouri Public Service Commission
Y2K Questionnaire

A Survey to determine the Scope of the Year 2000 (Y2K) Problem as it Relates to Public Utilities in the State of Missouri.

Utility Name ______________________ Utility # ______________

Y2K Project Coordinator ______________________
(Individual with primary responsibility for Y2K conversion and readiness)

Complete Address ______________________

Telephone # ______________________

E-Mail Address ______________________

Fax # ______________________

1. How many employees are specifically assigned to the Y2K problem?

2. Do you have a Y2K consultant? If so, please identify.

3. Do you (or does your parent company) have a Year 2000 Compliance statement? If so, please attach. If not, do you plan to have one in the future?

4. Please identify and describe in detail your current status in the Year 2000 preparedness process:
   - Have Not Started
   - Planning
   - Assessment
   - Remedying
   - Testing and Certifying
   - Finished
   - Not Following a Plan

6. What is the date at which you expect to be fully Year 2000 compliant?
Describe what tests or standards your company uses to determine "Y2K compliant" status.

7. Does your particular industry have an organization that is providing Y2K guidance and information? If so, please identify the organization.

8. Have you taken or are you planning to take any actions that you know will prevent disruptions in both service and or billing systems?

9. In assessing potential Y2K problems, which of the following best describes the anticipated impact for your utility operations? (circle one) please add additional information where appropriate:

- We will identify and correct all Y2K problems before Jan. 1, 2000.
- We will be 100% compliant sometime after Jan. 1, 2000 with no significant disruptions to service or billing.
- We will be 100% compliant sometime after Jan. 1, 2000 with some significant disruptions to service or billing.
- We will be 100% compliant sometime after Jan. 1, 2000 but our assessment is not accurate enough to identify all problems that may significantly affect service or billing.
- We are not following a compliance plan that calls for prior assessment of potential Y2K problems.

10. Please provide a copy of your contingency plan.

11. What is your estimated cost for investigating Y2K conversion and ensuring Y2K readiness and compliance?

12. Do you anticipate any impact on rates as a result of the Y2K conversion process? If so, please explain.

13. Have you addressed Y2K compliance with external suppliers, contractors, and other business partners or vendors? If so, please explain.

14. What is your plan for monitoring for potential problems after January 1, 2000?

Please return this questionnaire by September 17, 1998.
Send to:

Secretary of the Commission, OO-99-43
Missouri Public Service Commission
P.O. Box 360
Jefferson City, MO 65102

I (name), of lawful age, state upon my oath that I participated in the preparation of this survey to b filed in Case No. OO-99-43 and that the information contained herein is true and correct to my best kowledge and belief.

(Signature) ______________________
Written name of Y2K Coordinator
Title
Utility Company name

Subscribed and sworn to before me this ____ Day of __________ 1998.

____
Notary Public

My Commission expires:

Pursuant to the Code of State Regulations and Missouri Supreme Court Rules, pleadings filed with the Public Service Commission on behalf of another must be filed by an attorney licensed to practice law in the State of Missouri.

Signature: ______________________________

Attorney
MO Bar # ______________________________
Address ______________________________
City ______________________ State ________
Phone # ______________________________
Fax # ______________________________
E-Mail: ______________________________

SCHEDULE 6

No. 12

DATA INFORMATION REQUEST

Union Electric Company

CASE NO. EO-96-14

Requested From: DAVE WUCHER

Date Requested: 04/14/98

Information Requested:

PROVIDE ALL INFORMATION AVAILABLE REGARDING COMPANY POLICY RELATING TO TREATMENT OF COMPUTER RELATED ITEMS (HARDWARE AND SOFTWARE). SPECIFICALLY DETAIL WHAT POLICY IS FOLLOWED AND HOW IT IS DETERMINED WHAT ITEMS WILL BE EXPENSED AND WHAT ITEMS WILL BE CAPITALIZED.

Requested By: MIKE GRUNER

Information Provided: See Attached

The attached information provided to the Missouri Public Service Commission Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the Missouri Public Service Commission Staff if, during the pendency of Case No. EO-96-14 before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information.

If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the Union Electric Company office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title, number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies of data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control within your knowledge. The pronoun "you" or "your" refers to Union Electric Company and its employees, contractors, agents or others employed by or acting in its behalf.

Signed By: Connie S. Seabaugh

Date Response Received:

Prepared By: Connie Seabaugh

AmerenUE
MPSC Case No. EO-96-14
Response to Data Request No. 12

Request:

Provide all information available rgarding company policy relating to treatment of computer related items (hardware and software). Specifically detail what policy is followed and how it is determined what items will be expensed and what items will be capitalized.

Response:

The determination between capital and expense is based upon the "Property Unit Catalog". Generally , the Company's current policy for computer related expenditures is initial purchases and replacements of computer hardware, LAN/WAN equipment, servers, personal computers (monitors, CPU's, external drives or devices), printers, plotters, etc., are considered capital expenditures. Purchases of software and hardware enhancements (memory boards, internal modems, internal disk drives, internal tape drives, etc.) are expensed as incurred. The design, development, and installation of information systems software are also expensed as incurred.

See attached copy of the Company accounting policy, dated June 27, 1991.

PERSONAL COMPUTER PROCEDURE

UNION ELECTRIC COMPANY

ADMINISTRATIVE SERVICES
FINANCE & ACCOUNTING
NUCLEAR
TECHNICAL SERVICES

This instruction, effective immediately, supersedes the instruction of the same title dated March 20, 1989, and provides procedures for selection, procurement, installation, maintenance, accounting, transfer, retirement and replacement of personal computers and related hardware and software products. Its purpose is to expedite procurement of personal computer equipment and maintain a system of control.

This instruction is updated to reflect the following major changes in the areas of hardware maintenance and inventory control:

1) The Data Processing Department is no longer charged for supported hardware maintenance. These costs will be accumulated during the year and charged to the user department's budget in December. The user department will also be totally responsible for exercising warranties, if applicable.

2) The Inventory Control section has been eliminated. The process of tagging and tracking personal computer equipment purchases by the Data Processing Department is discontinued. The Data Processing Department is no longer notified of personal computer equipment purchases.

All purchases of personal computers and related items will be charged to the requisitioning department's budget. Maintenance contracts for all personal computer hardware products will be arranged by Information Services.

All purchases of computer equipment and systems, other than personal computers, will continue to be the responsibility of Information Services - except for the Callaway site. Purchases of computer equipment and systems for the Callaway site will be handled by the appropriate Nuclear Department. Information Services must be contacted to purchase equipment not specifically outlined in this procedure.

A catalog of standard personal computers and related hardware and software products will be provided to all departments to assist with purchases. The Computer Support Department of Information Services will be available for consultation in selecting systems. All requests to connect PC's to other computer systems, such as corporate mainframe, departmental systems and other PC's must be approved by Information Services prior to PC equipment purchases.

SELECTION

Computer Support will issue a catalog of standard personal computers and related hardware and software products to each department head. All purchases of personal computers and related items must be selected from the products listed in the personal computer catalog. This catalog will indicate which PC products are supported by Information Services.

Supported products are:

1) Hardware items tested and determined to be compatible with other standard equipment and also maintainable through an outside maintenance agreement; and

2) software items supported through training courses and/or support personnel.

Information Services will provide outside maintenance service, support personnel and training for hardware and software products as indicated in the personal computer catalog. Information regarding compatibility, maintenance, warranty period, available training and costs will be provided in the catalog.

In order to assist users when ordering equipment, the catalog will contain sample requisition forms to specify how items are to be entered. Standard wording will be provided to describe configuration, burn-in, delivery, setup and removal of packing materials.

Computer Support Department will update the catalog annually.

PROCUREMENT

All contacts with vendors concerning PC equipment will be made through the Computer Support or Purchasing Departments. Exception: After a purchase order has been issued, scheduling of desktop deliveries and follow-up calls should be made by direct communications between the user contact and the supplier.

User departments will review justifications for purchase of PC equipment and prepare requisitions for appropriate approval in accordance with the approval limitations issued by the Controller.

In order to select appropriate equipment, users must use the personal computer catalog provided by Computer Support. Users must consult with the Computer Support Department prior to purchase of items not supported by Information Services or items not in the catalog. Also, prior to purchase of PC equipment, users must send a written request and obtain approval from Information Services for all PC connections. All requests for PC to corporate mainframe connections should be directed to the Manager of Methods Department. All requests for PC to departmental computer connections and PC local area network connections should be directed to the Manager of Computer Support Department.

After determining the equipment to be ordered, the user will prepare Form 102, *Requisition to Purchase Non-Stock Material* (Exhibit A). (NOTE: In the near future, the user will be required to enter Form 102 directly on the computer terminal for processing. Complete instructions on the use of computer generated Form 102 will be issued by the Methods Department upon implementation.) All items must be entered on Form 102, in accordance with sample requisitions and standard wording provided in the personal computer catalog. Multiple systems, for the same location, should be entered on one requisition. Direct delivery of PC items to the user's desktop should be stated on the requisition along with the user contact, room number and phone number. Form 102, approved in accordance with the approval limitations issued by the Controller, will be forwarded to the Purchasing Department on the 1st and 15th of the month.

Upon creation of a purchase order, Purchasing Department will send a copy to the user (originator of Form 102). The purchase order should instruct the supplier to contact the user to coordinate the delivery and set up of the PC equipment. The user can check the delivery status of a purchase order by phoning the supplier direct. If a problem develops, the user should contact the buyer indicated on the purchase order. Additional costs due to special handling, special freight, etc. must be authorized through the buyer.

ACCOUNTING

All purchases of PC equipment will be charged to the user's budget. Purchases will be categorized as follows for accounting purposes:

1. Capital Expenditures

Initial purchases and replacements of personal computers, monitors, printers, plotters, and other units of property are capital expenditures. Questions regarding capitalization should be directed to the Plant & Regulatory Accounting Department. All initial purchases, replacements and retirements of units of property require either standing or specific work order authorization in accordance with existing Company policy. Standing work orders should be utilized to the extent practicable so as to minimize administrative paperwork. Appropriate charge accounts for capital equipment should be entered on Form 102.

2. **Operations & Maintenance Expenses**

Purchases of software and hardware enhancements (memory boards, internal modems, internal disk drives, internal tape drives, etc.) are O&M expenses. Control Work Order J003 should be utilized to track departmental charges. Appropriate charge accounts for O&M expenses should be entered on Form 102.

Computer Support Department will be responsible for arranging all outside maintenance contracts to support PC hardware. These contracts will be reviewed annually by the Computer Support and Data Processing Departments. Only supported hardware items listed in the personal computer catalog at the time of purchase will be serviced by the above contracts.

The Data Processing Department will budget and approve for payment all maintenance of supported hardware on a monthly basis. In December, a journal entry will be prepared to charge the accumulated expenditures for each department to the appropriate budget. This charge will be based upon information obtained from the maintenance form. The individual receiving service will enter his/her payroll department number, budget number, and employee number on the maintenance form. The individual will also sign the maintenance form at the time service is received. Users should also retain a copy of the maintenance form for their own records. Maintenance service is not to be used for upgrades, enhancements or rentals.

User departments requesting maintenance service must contact the Network Helpdesk in the Data Processing Department. Users can help expedite service call requests by having Terminal ID information available, if applicable.

The user department is responsible for maintaining the paperwork required for warranty work and for notifying repair personnel of equipment under warranty.

User department's budget will be directly billed for all maintenance related to unsupported hardware items and for services provided by unauthorized vendors.

RECEIPT AND DELIVERY

All personal computers and related hardware and software products will be delivered directly to the user's desktop and set up by the vendor in accordance with past practice.

At the user's request, Computer Support will assist the user in installing those items listed in the PC catalog as being supported.

Users will be required to verify that all material ordered has been received and set up properly. On request, Computer Support will assist the user in verification of receipt of proper configuration.

Upon verification of items received and properly installed (if required), users will promptly sign and forward the packing slip to the appropriate storekeeper to report material received. All equipment received must be reported. Users located in the General Office Building, 1901 Chouteau Avenue, St. Louis, Missouri, will send approved packing slips to the Storekeeper, General Office Building Storeroom - Code 1160. Users located outside the General Office Building will send signed packing slips to their local storekeeper.

WARRANTIES

In order to validate warranties, users must retain a copy of packing slips for all hardware and software purchased. Registration material for hardware and software will be completed by the users in their name and returned to the manufacturer. All warranty requirements and compliance to software license agreements will be the user's responsibility. Upon request, Accounts Payable will provide invoice copies to users requiring them for warranty service.

TRANSFERS

Form 54, *Transfer Requisition*, (Exhibit B) will be prepared by the user when personal computer equipment is transferred to another town location or where accounting information is changed. In addition to transfer and accounting information, Form 54 should identify department, make, model, attached features, serial number, and condition of PC equipment being transferred. The user should send Copies 1 and 2 of Form 54 to the Plant & Regulatory Accounting Department. Copy 3 of Form 54 should be retained by the user and Copy 4 should be sent with the PC equipment being transferred. The user must obtain authorization from Information Services for connections to other computer systems, if applicable, prior to transfer.

RETIREMENTS

When it is judged that purchase of a new PC is more cost effective than repair, the existing PC should be retired. However, if the existing PC is still functional but is obsolete or no longer meets the user's needs, replacement may be appropriate. The Computer Support Department must be contacted to determine whether the PC should be retired or replaced. See the Replacements section for this alternative.

If the PC is to be retired, Computer Support must prepare Form 2782, *Estimate and Removal Report of Physical Property*, and send it to the Plant & Regulatory Accounting Department for appropriate accounting. The Form 2782 (Exhibit C) shall include the division, department, location, make, model, attached features, serial number, original installation date, condition of PC equipment and the retirement or replacement work order number.

After insertion of accounting information, the Plant & Regulatory Accounting Department will return Form 2782 to the Computer Support Department. At the actual retirement time, a copy of completed Form 2782 will be sent by Computer Support to the Materials Control section of the Purchasing Department for notification of PC equipment to be retired. Materials Control will dispose of the PC equipment in accordance with the existing procedure on sale of scrap, salvage and surplus materials.

REPLACEMENTS

PCs may be replaced for various reasons such as obsolescence, or changes in the user's needs. Replacements should be handled as a new purchase. If the replaced PC equipment is not needed by the department in which it currently resides, it should be transferred to Computer Support for allocation to another department. For PC equipment transfers to Computer Support, the user will prepare Form 54 in accordance with previous instructions on transfers.

If Computer Support determines that PC equipment cannot be used in the UE system, they will prepare and distribute Form 2782 in accordance with "Retirement" instructions.

RD Vollmar

R. D. Vollmar, Manager
Methods Department

AmerenUE's Response to
Missouri PSC Staff Data Request
Case No. E0-96-14

Rec'd March 4, 1999

Company Person Responsible: Connie Seabaugh
Title: Manager, Accounting
Business Address: 1901 Chouteau Avenue
St. Louis, MO 63103
Phone: (314) 554-3678

DR-83 DR#12 supplied a copy of "Personal Computer Procedure – Union Electric Company" effective 06/27/91. What was the Company's computer policy regarding computer software policy at the time of the complaint case (EC-87-114)? Please supply a copy. Where there any changes in the Company's policy regarding computer software between the time of the complaint and 06/27/91, if so, please provide any changes. Additionally, have there been any changes to the Company's policy regarding computer software between 06/27/91 and present. If so please provide changes

Response: The Company's policy at the time of the complaint case, was the same as the policy set forth in the "Personal Computer Procedure – Union Electric Company" effective 6/27/91. At this time, the Company has not been able to locate a formal policy prior to the complaint case, however, accounting records prior to the complaint case indicate that the Company's accounting policy for computer software costs has been followed consistently from the period prior to the complaint case through December 31, 1998.

Ameren Services

One Ameren Plaza
1901 Chouteau Avenue
PO Box 66149
St. Louis, MO 63166-6149
314.621.3222

314.554.2237
314.554.4014 (fax)
JJCOOK@AMEREN.COM

Ameren

March 4, 1999

VIA FACSIMILE – 207-8009

Ms. Arlene Westerfield
Missouri Public Service Commission
815 Charter Commons Drive
Suite 100B
Chesterfield, MO 63017-0608

Re: MPSC Case No. EO-96-14
Data Request No. 83

Dear Ms. Westerfield:

Enclosed please find Union Electric Company's response to Staff Data Request No. 83 in the above matter.

Very truly yours,

James J. Cook/bb

James J. Cook
Managing Associate General Counsel

JJC/bb
Enclosure(s)

Legal Department
Ameren Services Company
One Ameren Plaza
1901 Chouteau Avenue
St. Louis, MO 63103
P. O. Box 66149 (M/C 1310)
St. Louis, MO 63166-6149
Telecopier (314) 554-4014

Ameren

WARNING

THE INFORMATION CONTAINED IN THIS COMMUNICATION IS CONFIDENTIAL, MAY BE ATTORNEY-CLIENT PRIVILEGED, MAY CONSTITUTE INSIDE INFORMATION, AND IS INTENDED ONLY FOR THE USE OF ADDRESSEE. UNAUTHORIZED USE, DISCLOSURE OR COPYING IS STRICTLY PROHIBITED AND MAY BE UNLAWFUL. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE IMMEDIATELY NOTIFY US AT (314) 554-3271 AND RETURN THE ORIGINAL MESSAGE TO US AT THE ADDRESS ABOVE VIA THE UNITED STATES POSTAL SERVICE. WE WILL REIMBURSE ANY COSTS YOU INCUR IN NOTIFYING AND RETURNING THE MESSAGE TO US. THANK YOU.

DATE: March 4, 1999 *TIME: 9:11 AM*

PLEASE DELIVER TO: Arlene Westerfield

COMPANY: Missouri Public Service Commission

FACSIMILE NUMBER: 207-8009

FROM: James J. Cook

FACSIMILE NUMBER: (314) 554-4014

TELEPHONE NUMBER: (314) 554-2237

TOTAL PAGES INCLUDING THIS PAGE: 3

IF YOU DO NOT RECEIVE ALL THE PAGES CONTACT: Beth Burns @ (314) 554-3271.

MPSC Case No. EO-96-14 – Response to Staff DR #83

SCHEDULE 7

Schedule 7

HC in its entirety

NP

SCHEDULE 8

No. 24

DATA INFORMATION REQUEST

Union Electric Company

CASE NO. EO-96-14

Requested From: Dave Wucher

Date Requested: 06/16/98

Information Requested:

Professional Services, from page B2-1 of the F&S Report, has increased from $8,043,606 for the 12 month period ending March 1996 to $23,714,169 for the 12 month period ending March 1998. Please thoroughly explain the types of professional services and or consultants being hired, the projects undertaken and a quantification of each project. If the services or projects span multiple periods please provide the total expected project cost, the amount incured to date, the amount for the 12 months ended 3/98 and the expected amount for the 12 months ending 6/98. Is any of the increase in this expense related to the merger?

Requested By: MIKE GRUNER

Information Provided: (See attached.)

The attached information provided to the Missouri Public Service Commission Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the Missouri Public Service Commission Staff if, during the pendency of Case No. EO-96-14 before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information.

If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the Union Electric Company office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title, number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies of data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control within your knowledge. The pronoun "you" or "your" refers to Union Electric Company and its employees, contractors, agents or others employed by or acting in its behalf.

Signed By: D L Wucher

Date Response Received: MG 8/10/98

Prepared By:

Union Electric Company
Case No. EO-96-14

Data Response: No.24

The primary increase in professional services relates to the Information Technology area. Several major projects occurred during 1996, 1997 and into 1998. However, for any project related to the merger, related costs were charged to Account 426 below-the-line and not to Operations and Maintenance accounts above the line. The largest project is the installation of the Peoplesoft Human Resources and Payroll system (AMRAPS). Andersen Consulting assisted in this installation which enabled us to combine our union and non-union payroll systems and merge them into the Human Resources System. During 1998, Andersen Consulting is also assisting in an upgrade of the Peoplesoft System.

See response to Data Request No. 19 for a description of the major projects.

For the 12 months ended 3/98, the cost of consultants charged to AmerenUe operations and maintenance expense for these major projects was $5.3 million.

SCHEDULE 9

No. 76

DATA INFORMATION REQUEST
Union Electric Company
CASE NO. EO-96-14

Requested From: Gary Weiss
Date Requested: 10/20/98
Information Requested: See Attached

Requested By: ARLENE WESTERFIELD

Information Provided: See Attached

The attached information provided to the Missouri Public Service Commission Staff in response to the above data information request is accurate and complete, and contains no material misrepresentations or omissions, based upon present facts of which the undersigned has knowledge, information or belief. The undersigned agrees to immediately inform the Missouri Public Service Commission Staff if, during the pendency of Case No. EO-96-14 before the Commission, any matters are discovered which would materially affect the accuracy or completeness of the attached information.

If these data are voluminous, please (1) identify the relevant documents and their location (2) make arrangements with requestor to have documents available for inspection in the Union Electric Company office, or other location mutually agreeable. Where identification of a document is requested, briefly describe the document (e.g. book, letter, memorandum, report) and state the following information as applicable for the particular document: name, title, number, author, date of publication and publisher, addresses, date written, and the name and address of the person(s) having possession of the document. As used in this data request the term "document(s)" includes publication of any format, workpapers, letters, memoranda, notes, reports, analyses, computer analyses, test results, studies of data, recordings, transcriptions and printed, typed or written materials of every kind in your possession, custody or control within your knowledge. The pronoun "you" or "your" refers to Union Electric Company and its employees, contractors, agents or others employed by or acting in its behalf.

Signed By: Gary Weiss

Date Response Received: 11/11/98 aw

Prepared By: Gary S. Weiss

No. 76

Attachment

DATA INFORMATION REQUEST

Union Electric Company

CASE NO. EO-96-14

Requested From: Gary Weiss

Date Requested: 10/20/98

Information Requested:

Please provide a response to this DR as soon as possible.

In March 1998, The Accounting Standards Executive Committee of the AICPA issued Statement of Position (SOP) 98-1, "Accounting for the Costs of Computer Software Developed or Obtained for Internal Use." This SOP will require capitalization of qualifying costs related to internal use software. In light of this SOP respond to the following:

1. What are the Company's plans for treatment of these costs prospectively?
2. Does the Company plan to restate (capitalize) any costs to date that have previously been expensed?
3. What impact will this SOP have on the specific costs (such as AMRAPS, CSS and EMPRV) that have been identified as computer related for the credit period?

AmerenUE
MPSC CASE NO. EO-96-14
REPSONSE TO MPSC STAFF DATA REQUEST NO. 76

RESPONSES TO SOP 98-1 DATA REQUEST:

1. What are the Company's plans for treatment of these costs prospectively?

Response: The Company intends to adopt SOP 98-1 on January 1, 1999, resulting in the capitalization of qualifying costs related to internal use software incurred after that date.

2. Does the Company plan to restate (capitalize) any costs to date that have been previously expensed?

Response: Paragraph 43 of SOP 98-1 specifically states that "Costs incurred prior to initial application of this SOP, whether capitalized or not, should not be adjusted to the amounts that would have been capitalized had this SOP been in effect when those costs were incurred." In compliance with SOP 98-1, the Company does not plan to restate any costs that have been previously expensed.

3. What impact will this SOP have on the specific costs (such as AMRAPS, CSS and EMPRV) that have been identified as computer related for the credit period?

Response: As indicated in the response to question 2, the Company will not be restating any costs previously expensed; therefore, there is no impact on specific costs identified as computer related for the credit period.

SCHEDULE 10

STATEMENT OF POSITION 98-1

AICPA

AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS

March 4, 1998

Accounting for the Costs of Computer Software Developed or Obtained for Internal Use

Issued by the Accounting Standards Executive Committee

Schedule 10-1

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NOTE

Statements of Position on accounting issues present the conclusions of at least two thirds of the Accounting Standards Executive Committee, which is the senior technical body of the Institute authorized to speak for the Institute in the areas of financial accounting and reporting. Statement on Auditing Standards No. 69, *The Meaning of* Present Fairly in Conformity With Generally Accepted Accounting Principles *in the Independent Auditor's Report*, identifies AICPA Statements of Position that have been cleared by the Financial Accounting Standards Board as sources of established accounting principles in category *b* of the hierarchy of generally accepted accounting principles that it establishes. AICPA members should consider the accounting principles in this Statement of Position if a different accounting treatment of a transaction or event is not specified by a pronouncement covered by rule 203 of the AICPA Code of Professional Conduct. In such circumstances, the accounting treatment specified by the Statement of Position should be used, or the member should be prepared to justify a conclusion that another treatment better presents the substance of the transaction in the circumstances.

1 2 3 4 5 6 7 8 9 0 AccS 9 9 8

SUMMARY

This Statement of Position (SOP) provides guidance on accounting for the costs of computer software developed or obtained for internal use. The SOP requires the following:

- Computer software meeting the characteristics specified in this SOP is internal-use software.
- Computer software costs that are incurred in the preliminary project stage should be expensed as incurred. Once the capitalization criteria of the SOP have been met, external direct costs of materials and services consumed in developing or obtaining internal-use computer software; payroll and payroll-related costs for employees who are directly associated with and who devote time to the internal-use computer software project (to the extent of the time spent directly on the project); and interest costs incurred when developing computer software for internal use should be capitalized. Training costs and data conversion costs, except as noted in paragraph 21, should be expensed as incurred.
- Internal costs incurred for upgrades and enhancements should be expensed or capitalized in accordance with paragraphs 20-23. Internal costs incurred for maintenance should be expensed as incurred. Entities that cannot separate internal costs on a reasonably cost-effective basis between maintenance and relatively minor upgrades and enhancements should expense such costs as incurred.
- External costs incurred under agreements related to specified upgrades and enhancements should be expensed or capitalized in accordance with paragraphs 20-23. However, external costs related to maintenance, unspecified upgrades and enhancements, and costs under agreements that combine the costs of maintenance and unspecified upgrades and enhancements should be recognized in expense over the contract period on a straight-line basis unless another

systematic and rational basis is more representative of the services received.

- Impairment should be recognized and measured in accordance with the provisions of FASB Statement No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of.*
- The capitalized costs of computer software developed or obtained for internal use should be amortized on a straight-line basis unless another systematic and rational basis is more representative of the software's use.
- If, after the development of internal-use software is completed, an entity decides to market the software, proceeds received from the license of the computer software, net of direct incremental costs of marketing, should be applied against the carrying amount of that software.

The SOP identifies the characteristics of internal-use software and provides examples to assist in determining when computer software is for internal use.

The SOP applies to all nongovernmental entities and is effective for financial statements for fiscal years beginning after December 15, 1998. The provisions of this SOP should be applied to internal-use software costs incurred in those fiscal years for all projects, including those projects in progress upon initial application of the SOP. Earlier application is encouraged in fiscal years for which annual financial statements have not been issued. Costs incurred prior to initial application of this SOP, whether capitalized or not, should not be adjusted to the amounts that would have been capitalized had this SOP been in effect when those costs were incurred.

FOREWORD

The accounting guidance contained in this document has been cleared by the Financial Accounting Standards Board (FASB). The procedure for clearing accounting guidance in documents issued by the Accounting Standards Executive Committee (AcSEC) involves the FASB reviewing and discussing in public board meetings (*a*) a prospectus for a project to develop a document, (*b*) a proposed exposure draft that has been approved by at least ten of AcSEC's fifteen members, and (*c*) a proposed final document that has been approved by at least ten of AcSEC's fifteen members. The document is cleared if at least five of the seven FASB members do not object to AcSEC undertaking the project, issuing the proposed exposure draft or, after considering the input received by AcSEC as a result of the issuance of the exposure draft, issuing the final document.

The criteria applied by the FASB in their review of proposed projects and proposed documents include the following.

a. The proposal does not conflict with current or proposed accounting requirements, unless it is a limited circumstance, usually in specialized industry accounting, and the proposal adequately justifies the departure.

b. The proposal will result in an improvement in practice.

c. The AICPA demonstrates the need for the proposal.

d. The benefits of the proposal are expected to exceed the costs of applying it.

In many situations, prior to clearance, the FASB will propose suggestions, many of which are included in the documents.

Accounting for the Costs of Computer Software Developed or Obtained for Internal Use

Introduction and Background

1. The Financial Accounting Standards Board (FASB) issued Statement of Financial Accounting Standards No. 86, *Accounting for the Costs of Computer Software to Be Sold, Leased, or Otherwise Marketed*, in 1985. At that time, the FASB considered expanding the scope of that project to include costs incurred for the development of computer software for internal use. The FASB concluded, however, that accounting for the costs of software used internally was not a significant problem and, therefore, decided not to expand the scope of the project. The FASB stated that it recognized that at that time the majority of entities expensed all costs of developing software for internal use, and it was not convinced that the predominant practice was improper.

2. Because of the absence of authoritative literature that specifically addresses accounting for the costs of computer software developed or obtained for internal use and the growing magnitude of those costs, practice became diverse. Some entities capitalize costs of internal-use computer software, whereas some entities expense costs as incurred. Still other entities capitalize costs of purchased internal-use computer software and expense costs of internally developed internal-use computer software as incurred.

3. The staff of the Securities and Exchange Commission (SEC) and other interested parties have requested that standard setters develop authoritative guidance to eliminate the inconsistencies in practice. In a November 1994 letter, the Chief Accountant of the SEC suggested that the Emerging Issues Task Force (EITF) develop that guidance. However, the EITF and the Accounting Standards Executive Committee (AcSEC) agreed that AcSEC should develop the guidance.

4. AcSEC issued an exposure draft of a proposed Statement of Position (SOP), *Accounting for the Costs of Computer Software Developed or Obtained for Internal Use*, on December 17, 1996. AcSEC received about 130 comment letters in response to the exposure draft.

Scope

5. This SOP provides guidance on accounting by all nongovernmental entities, including not-for-profit organizations, for the costs of computer software developed or obtained for internal use and provides guidance for determining whether computer software is for internal use.

6. This SOP clarifies that the costs of computer software developed or obtained are costs of either (*a*) software to be sold, leased, or otherwise marketed as a separate product or as part of a product or process, subject to FASB Statement No. 86; (*b*) software to be used in research and development, subject to FASB Statement No. 2, *Accounting for Research and Development Costs*, and FASB Interpretation No. 6, *Applicability of FASB Statement No. 2 to Computer Software*; (*c*) software developed for others under a contractual arrangement, subject to contract accounting standards; or (*d*) internal-use software, subject to this SOP. This SOP does not change any of the provisions in FASB Statement Nos. 86, 2, or FASB Interpretation No. 6.

7. Costs of computer software that is "sold, leased, or otherwise marketed as a separate product or as part of a product or process" are within the scope of FASB Statement No. 86. The Appendix of this SOP includes examples of computer software considered to be for internal use and thus not "part of a product or process."

8. This SOP provides guidance on when costs incurred for internal-use computer software are and are not capitalized.

9. This SOP provides guidance on accounting for the proceeds of computer software developed or obtained for internal use that is marketed.

10. This SOP provides guidance on accounting for computer software that consists of more than one component or module. For example, an entity may develop an accounting software system containing three elements: a general ledger, an accounts payable subledger, and an accounts receivable subledger. In this example, each element might be viewed as a component or module of the entire accounting software system. The guidance in this SOP should be applied to individual components or modules.

11. Accounting for costs of reengineering activities, which often are associated with new or upgraded software applications, is not included within the scope of this SOP.[1]

Conclusions

Characteristics of Internal-Use Computer Software

12. For purposes of this SOP, internal-use software is software having the following characteristics.

    a. The software is acquired, internally developed, or modified solely to meet the entity's internal needs.

    b. During the software's development or modification, no substantive plan exists or is being developed to market the software externally.

    A substantive plan to market software externally could include the selection of a marketing channel or channels with identified promotional, delivery, billing, and support activities. To be considered a substantive plan under this SOP, implementation of the plan should be reasonably possible. Arrangements providing for the joint development of software for mutual internal use (for example, cost-sharing arrangements) are not substantive plans to market software for purposes of this SOP. Similarly, routine market feasibility studies are not substantive plans to market software for purposes of this SOP.

1. This SOP does not change the conclusions reached in Emerging Issues Task Force Issue No. 97-13, *Accounting for Costs Incurred in Connection with a Consulting Contract or an Internal Project That Combines Business Process Reengineering and Information Technology Transformation*, which requires that the costs of reengineering activities be expensed as incurred.

13. An entity must meet both characteristics in paragraph 12 for software to be considered for internal use.

14. An entity's past practices related to selling software may help determine whether the software is for internal use or is subject to a plan to be marketed externally. For example, an entity in the business of selling computer software often both uses and sells its own software products. Such a past practice of both using and selling computer software creates a rebuttable presumption that any software developed by that entity is intended for sale, lease, or other marketing, and thus is subject to the guidance in FASB Statement No. 86.

15. Computer software to be sold, leased, or otherwise marketed includes software that is part of a product or process to be sold to a customer and should be accounted for under FASB Statement No. 86. For example, software designed for and embedded in a semiconductor chip is included in the scope of FASB Statement No. 86 because it is an integral part of the product. By contrast, software for internal use, though it may be used in developing a product, is not part of or included in the actual product or service sold. If software is used by the vendor in the production of the product or providing the service but the customer does not acquire the software or the future right to use it, the software is covered by this SOP. For example, for a communications company selling telephone services, software included in a telephone switch is part of the internal equipment used to deliver a service but is not part of the product or service actually being acquired or received by the customer.

16. The Appendix provides examples of when computer software is and is not for internal use.

Stages of Computer Software Development

17. The following table illustrates the various stages and related processes of computer software development.

Preliminary Project Stage	Application Development Stage	Post-Implementation/ Operation Stage
Conceptual formulation of alternatives	Design of chosen path, including software configuration and software interfaces	Training
Evaluation of alternatives	Coding	Application maintenance
Determination of existence of needed technology	Installation to hardware	
Final selection of alternatives	Testing, including parallel processing phase	

The SOP recognizes that the development of internal-use computer software may not follow the order shown above. For example, coding and testing are often performed simultaneously. Regardless, for costs incurred subsequent to completion of the preliminary project stage, the SOP should be applied based on the nature of the costs incurred, not the timing of their incurrence. For example, while some training may occur in the application development stage, it should be expensed as incurred as required in paragraphs 21 and 23.

Research and Development

18. The following costs of internal-use computer software are included in research and development and should be accounted for in accordance with the provisions of FASB Statement No. 2:

    a. Purchased or leased computer software used in research and development activities where the software does not have alternative future uses

    b. All internally developed internal-use computer software[2] (including software developed by third parties, for example, programmer consultants) if (1) the software is a pilot project (that is, software of a nature similar to a pilot plant as noted in paragraph 9(h) of FASB Statement No. 2) or (2) the software is used in a particular research and development project, regardless of whether the software has alternative future uses

2. FASB Interpretation No. 6 excludes from research and development costs computer software related to an entity's selling and administrative activities.

Capitalize or Expense

19. *Preliminary Project Stage.* When a computer software project is in the preliminary project stage, entities will likely—

    a. Make strategic decisions to allocate resources between alternative projects at a given point in time. For example, should programmers develop a new payroll system or direct their efforts toward correcting existing problems in an operating payroll system?

    b. Determine the performance requirements (that is, what it is that they need the software to do) and systems requirements for the computer software project it has proposed to undertake.

    c. Invite vendors to perform demonstrations of how their software will fulfill an entity's needs.

    d. Explore alternative means of achieving specified performance requirements. For example, should an entity make or buy the software? Should the software run on a mainframe or a client server system?

    e. Determine that the technology needed to achieve performance requirements exists.

    f. Select a vendor if an entity chooses to obtain software.

    g. Select a consultant to assist in the development or installation of the software.

20. Internal and external costs incurred during the preliminary project stage should be expensed as they are incurred.

21. *Application Development Stage.* Internal and external costs incurred to develop internal-use computer software during the application development stage should be capitalized. Costs to develop or obtain software that allows for access or conversion of old data by new systems should also be capitalized. Training costs are not internal-use software development costs and, if incurred during this stage, should be expensed as incurred.

22. The process of data conversion from old to new systems may include purging or cleansing of existing data, reconciliation

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or balancing of the old data and the data in the new system, creation of new/additional data, and conversion of old data to the new system. Data conversion often occurs during the application development stage. Data conversion costs, except as noted in paragraph 21, should be expensed as incurred.

23. *Post-Implementation/Operation Stage.* Internal and external training costs and maintenance costs should be expensed as incurred.

24. *Upgrades and Enhancements.* For purposes of this SOP, upgrades and enhancements are defined as modifications to existing internal-use software that result in additional functionality—that is, modifications to enable the software to perform tasks that it was previously incapable of performing. Upgrades and enhancements normally require new software specifications and may also require a change to all or part of the existing software specifications. In order for costs of specified upgrades and enhancements to internal-use computer software to be capitalized in accordance with paragraphs 25 and 26, it must be probable[3] that those expenditures will result in additional functionality.[4]

25. Internal costs incurred for upgrades and enhancements should be expensed or capitalized in accordance with paragraphs 20-23.[5] Internal costs incurred for maintenance should be expensed as incurred. Entities that cannot separate internal costs on a reasonably cost-effective basis between maintenance and relatively minor upgrades and enhancements should expense such costs as incurred.

26. External costs incurred under agreements related to specified upgrades and enhancements should be expensed or capitalized in accordance with paragraphs 20-23. (If maintenance is combined with specified upgrades and enhancements in a single contract, the cost should be allocated

3. See paragraph 62 of this SOP for meaning of "probable."

4. This SOP does not change the conclusions reached in Emerging Issues Task Force Issue No. 96-14, *Accounting for the Costs Associated with Modifying Computer Software for the Year 2000*, which requires that external and internal costs associated with modifying internal-use software currently in use for the Year 2000 be charged to expense as incurred. New internal-use software developed or obtained that replaces previously existing internal-use software should be accounted for in accordance with this SOP.

5. See footnote 4.

between the elements as discussed in paragraph 33 and the maintenance costs should be expensed over the contract period.) However, external costs related to maintenance, unspecified upgrades and enhancements, and costs under agreements that combine the costs of maintenance and unspecified upgrades and enhancements should be recognized in expense over the contract period on a straight-line basis unless another systematic and rational basis is more representative of the services received.

27. Capitalization of costs should begin when both of the following occur.

    a. Preliminary project stage is completed.

    b. Management, with the relevant authority, implicitly or explicitly authorizes and commits to funding a computer software project and it is probable[6] that the project will be completed and the software will be used to perform the function intended. Examples of authorization include the execution of a contract with a third party to develop the software, approval of expenditures related to internal development, or a commitment to obtain the software from a third party.

28. When it is no longer probable[7] that the computer software project will be completed and placed in service, no further costs should be capitalized, and guidance in paragraphs 34 and 35 on impairment should be applied to existing balances.

29. Capitalization should cease no later than the point at which a computer software project is substantially complete and ready for its intended use. For purposes of this SOP, computer software is ready for its intended use after all substantial testing is completed.

30. New software development activities should trigger consideration of remaining useful lives of software that is to be replaced. When an entity replaces existing software with new software, unamortized costs of the old software should be expensed when the new software is ready for its intended use.

6. See paragraph 62 of this SOP for meaning of "probable."

7. See paragraph 62 of this SOP for meaning of "probable."

Capitalizable Costs

31. Costs of computer software developed or obtained for internal use that should be capitalized include only the following:

    a. External direct costs of materials and services consumed in developing or obtaining internal-use computer software (Examples of those costs include but are not limited to fees paid to third parties for services provided to develop the software during the application development stage, costs incurred to obtain computer software from third parties, and travel expenses incurred by employees in their duties directly associated with developing software.)

    b. Payroll and payroll-related costs (for example, costs of employee benefits) for employees who are directly associated with and who devote time to the internal-use computer software project, to the extent of the time spent directly on the project (Examples of employee activities include but are not limited to coding and testing during the application development stage.)

    c. Interest costs incurred while developing internal-use computer software (Interest should be capitalized in accordance with the provisions of FASB Statement No. 34, *Capitalization of Interest Cost*.)[8]

    General and administrative costs and overhead costs should not be capitalized as costs of internal-use software.

32. Entities often license internal-use software from third parties. Though FASB Statement No. 13, *Accounting for Leases*, excludes licensing agreements from its scope, entities should analogize to that Statement when determining the asset acquired in a software licensing arrangement.

8. Paragraph 17 of FASB Statement No. 34, *Capitalization of Interest Cost*, states, "If the enterprise suspends substantially all activities related to acquisition of the asset, interest capitalization shall cease until activities are resumed."

Multiple-Element Software Arrangements Included in Purchase Price

33. Entities may purchase internal-use computer software from a third party. In some cases, the purchase price includes multiple elements, such as training for the software, maintenance fees for routine maintenance work to be performed by the third party, data conversion costs, reengineering costs, and rights to future upgrades and enhancements. Entities should allocate the cost among all individual elements. The allocation should be based on objective evidence of fair value of the elements in the contract, not necessarily separate prices stated within the contract for each element. Those elements included in the scope of this SOP should be accounted for in accordance with the provisions of this SOP.

Impairment

34. Impairment should be recognized and measured in accordance with the provisions of FASB Statement No. 121, *Accounting for the Impairment of Long-Lived Assets and for Long-Lived Assets to Be Disposed Of.* Paragraph 8 of FASB Statement No. 121 requires that assets should be grouped at the lowest level for which there are identifiable cash flows that are largely independent of the cash flows of other groups of assets. FASB Statement No. 121 guidance is applicable, for example, when one of the following occurs related to computer software being developed or currently in use.

    a. Internal-use computer software is not expected to provide substantive service potential.

    b. A significant change occurs in the extent or manner in which the software is used or is expected to be used.

    c. A significant change is made or will be made to the software program.

    d. Costs of developing or modifying internal-use computer software significantly exceed the amount originally expected to develop or modify the software.

35. Paragraph 10 of FASB Statement No. 121 requires that "if the asset is not expected to provide any service potential to

the entity, the asset shall be accounted for as if abandoned or held for disposal in accordance with the provisions of paragraph 15 of [FASB Statement No. 121]." When it is no longer probable[9] that computer software being developed will be completed and placed in service, the asset should be reported at the lower of the carrying amount or fair value, if any, less costs to sell. The rebuttable presumption is that such uncompleted software has a fair value of zero.

Indications that the software may no longer be expected to be completed and placed in service include the following:

a. A lack of expenditures budgeted or incurred for the project

b. Programming difficulties that cannot be resolved on a timely basis

c. Significant cost overruns

d. Information has been obtained indicating that the costs of internally developed software will significantly exceed the cost of comparable third-party software or software products, so that management intends to obtain the third-party software or software products instead of completing the internally developed software

e. Technologies are introduced in the marketplace, so that management intends to obtain the third-party software or software products instead of completing the internally developed software

f. Business segment or unit to which the software relates is unprofitable or has been or will be discontinued

Amortization

36. The costs of computer software developed or obtained for internal use should be amortized on a straight-line basis unless another systematic and rational basis is more representative of the software's use.

9. See paragraph 62 of this SOP for meaning of "probable."

37. In determining and periodically reassessing the estimated useful life over which the costs incurred for internal-use computer software will be amortized, entities should consider the effects of obsolescence, technology, competition, and other economic factors. Entities should consider rapid changes that may be occurring in the development of software products, software operating systems, or computer hardware and whether management intends to replace any technologically inferior software or hardware. Given the history of rapid changes in technology, software often has had a relatively short useful life.

38. For each module or component of a software project, amortization should begin when the computer software is ready for its intended use, regardless of whether the software will be placed in service in planned stages that may extend beyond a reporting period. For purposes of this SOP, computer software is ready for its intended use after all substantial testing is completed. If the functionality of a module is entirely dependent on the completion of other modules, amortization of that module should begin when both that module and the other modules upon which it is functionally dependent are ready for their intended use.

Internal-Use Computer Software Marketed

39. If, after the development of internal-use software is completed, an entity decides to market the software, proceeds received from the license of the computer software, net of direct incremental costs of marketing, such as commissions, software reproduction costs, warranty and service obligations, and installation costs, should be applied against the carrying amount of that software. No profit should be recognized until aggregate net proceeds from licenses and amortization have reduced the carrying amount of the software to zero. Subsequent proceeds should be recognized in revenue as earned.

40. If, during the development of internal-use software, an entity decides to market the software to others, the entity should follow FASB Statement No. 86. Amounts previously capitalized under this SOP should be evaluated at each balance sheet date in accordance with paragraph 10 of FASB

Statement No. 86. Capitalized software costs should be amortized in accordance with paragraph 8 of FASB Statement No. 86. A pattern of deciding to market internal-use software during its development creates a rebuttable presumption that any software developed by that entity is intended for sale, lease, or other marketing, and thus is subject to the guidance in FASB Statement No. 86.

Disclosures

41. This SOP does not require any new disclosures; disclosure should be made in accordance with existing authoritative literature, including Accounting Principles Board (APB) Opinion No. 12, *Disclosure of Depreciable Assets and Depreciation*; APB Opinion No. 22, *Disclosure of Accounting Policies* (for example, amortization methods); FASB Statement Nos. 2 and 121; and SOP 94-6, *Disclosure of Certain Significant Risks and Uncertainties.*

Effective Date and Transition

42. This SOP is effective for financial statements for fiscal years beginning after December 15, 1998, and should be applied to internal-use computer software costs incurred in those fiscal years for all projects, including those projects in progress upon initial application of this SOP. Earlier application is encouraged in fiscal years for which annual financial statements have not been issued.

43. Costs incurred prior to initial application of this SOP, whether capitalized or not, should not be adjusted to the amounts that would have been capitalized had this SOP been in effect when those costs were incurred. However, the provisions of this SOP concerning amortization and impairment should be applied to any unamortized costs capitalized prior to initial application of this SOP that continue to be reported as assets after the effective date. In accordance with paragraph 33 of APB Opinion No. 20, *Accounting Changes*, the effect on income before extraordinary items, net income, and related per share amounts of the current period should be disclosed for the change in accounting.

44. Initial application of this SOP should be as of the beginning of the fiscal year in which the SOP is first adopted (that is, if the SOP is adopted prior to the effective date and during an interim period other than the first interim period, all prior interim periods of that fiscal year should be restated).

The provisions of this Statement need not be applied to immaterial items.

Basis for Conclusions

Characteristics of Internal-Use Computer Software

45. AcSEC recognizes that entities may develop computer software for internal use and also plan to sell, lease, or otherwise market the software to recover some costs. AcSEC believes that the presence of a substantive plan to market software externally before or during software development indicates an intent to sell, lease, or otherwise market software, which requires accounting prescribed by FASB Statement No. 86. AcSEC believes that it is impractical to allocate costs between internal-use software and software to be marketed.

46. AcSEC considered whether one of the characteristics of internal-use computer software should be that during the software's development, no substantive plan or *intent* to market the software externally exists. AcSEC decided that it could not provide operational guidance to help entities define intent. For example, many entities will consider opportunities to recover some of the software development costs through subsequent sales of the product. AcSEC believes that it cannot provide guidance to distinguish between a true intent to market software and routine inquiries and studies about the possibility of recovering some costs.

47. Because FASB Statement No. 86 does not define "part of a product or process," many entities have difficulty determining whether computer software is for internal use and

subject to the SOP or "part of a product or process" and subject to the accounting prescribed by FASB Statement No. 86. A FASB staff article (which Statement on Auditing Standards No. 69, *The Meaning of Present Fairly in Accordance With Generally Accepted Accounting Principles in the Independent Auditor's Report*, subordinates to an SOP) *Computer Software: Guidance on Applying Statement No. 86* that appeared in a 1986 FASB Status Report attempted to clarify that term as follows: "Indications that the software in question falls under the Statement's scope include the dependence of the company on the software to provide the service. In other words, could the company earn revenue from providing the service without the software? Would the service be as timely or accurate without the software? If the answer to any of these questions is no, that may indicate that the software is part of a product or process and is included in the scope of Statement No. 86."

48. In this SOP, AcSEC provides what it believes to be operational guidance that will help entities determine if computer software is for internal use. AcSEC believes that the distinction can be based on what the customer is buying. If the customer is acquiring the software or the future right to use it, the costs of that software are accounted for in accordance with the provisions of FASB Statement No. 86. However, if the software is used by the vendor in production of the product or in providing the service but the customer does not acquire the software or the future right to use it, the software is for internal use. The Appendix provides examples of when computer software is and is not for internal use.

49. AcSEC believes that the guidance in this SOP should be applied at the component or module level. One computer software project may result in several different working modules, which with appropriate software interfaces can be used independently of other modules. AcSEC analogized to an entity that constructs a building complex. Though several buildings are ultimately constructed, each building is an asset and may function without the others.

Research and Development

50. Some respondents to the exposure draft believe that the costs of computer software developed or obtained for internal use should be charged to expense when incurred as research and development until technological feasibility has been established for the software. They believe that, like the costs of computer software to be sold, leased, or otherwise marketed, the costs of internal-use computer software are within the scope of paragraph 9(i) of FASB Statement No. 2, which states that "engineering activity required to advance the design of a product to the point that it meets specific functional and economic requirements and is ready for manufacture," and therefore those costs should be included within research and development.

51. AcSEC considered whether this SOP should require entities to meet some technological feasibility threshold before they could capitalize costs of internal-use computer software. AcSEC decided and most respondents to the exposure draft agreed that technological feasibility should not apply to this SOP. AcSEC reasoned that the technological feasibility criteria applied in FASB Statement No. 86 to software that is sold, leased, or otherwise marketed were appropriate to an inventory model. That inventory model includes an implicit marketability test, a notion that is not applicable to this SOP.

52. FASB Interpretation No. 6 states that the costs of computer software that is developed or obtained for use in an entity's selling and administrative activities are not research and development costs. In addition, it states that, "costs incurred to purchase or lease computer software developed by others are not research and development costs under FASB Statement No. 2 unless the software is for use in research and development activities." Further, FASB Interpretation No. 6 states, "costs incurred by an enterprise in developing computer software internally for use in its research and development activities are research and development costs . . . ," regardless of whether the software has alternative future uses.

53. AcSEC also considered the guidance of paragraphs 9(h) and 10(h) of FASB Statement No. 2 to determine whether

other costs of internal-use software are excluded from research and development. Paragraph 10(h) of FASB Statement No. 2 states that "activity, including design and construction engineering, related to the construction, relocation, rearrangement, or start-up of facilities or equipment other than (*1*) pilot plants and (*2*) facilities or equipment whose sole use is for a particular research and development project" are excluded from research and development.

54. Because of the guidance in FASB Statement No. 2 and FASB Interpretation No. 6, AcSEC concluded that not all internal-use software costs are research and development costs (see paragraph 52). However, AcSEC evaluated the process of developing internal-use software within the context of FASB Statement No. 2 because that statement is either directly relevant or is a reasonable basis for determining which costs of internal-use software development activities should be expensed. Consistent with FASB Statement No. 2, AcSEC did not specify the income statement classifications of expensed internal-use software development costs.

55. Paragraphs 9(c) and 9(d), respectively, of FASB Statement No. 2 include "conceptual formulation and design of possible product or process alternatives" and "testing in search for or evaluation of product or process alternatives" as examples of activities that are research and development and therefore are expensed as incurred. AcSEC believes paragraphs 9(c) and 9(d) are relevant to the process of developing internal-use computer software. AcSEC believes that as part of these activities an entity will determine whether the needed technology exists. If the technology does not exist, then research and development-type activities have not yet been completed, and therefore those costs should be expensed as incurred.

56. AcSEC also believes that development risks associated with creating internal-use computer software are conceptually no different from development risks associated with creating other assets such as high-tech automated plants. Entities, at the start of both kinds of projects, often expect that existing technology will allow the entity to complete projects that will provide future benefits.

Capitalize or Expense

57. About two-thirds of the respondents to the exposure draft believe that the internal and external costs of computer software developed or obtained for internal use should be reported as assets. However, certain representatives of the financial statement user community oppose capitalization of internal costs incurred to develop or obtain internal-use software.

58. Those users and some others oppose the exposure draft's provisions for capitalization because they believe that the benefits of capitalizing internal costs are limited. They believe that capitalized internal costs related to developing or obtaining internal-use software are often unrelated to the software's actual value and that such capitalized costs are often irrelevant in the investment and credit evaluation process. In addition, some who oppose the exposure draft believe that external costs of developing or obtaining internal-use software are a more reliable measure of the software asset than internal costs.

59. Some respondents to the exposure draft believe that costs of computer software developed or obtained for internal use should be expensed as incurred. They believe that such costs should not be capitalized because they do not result in demonstrable probable future economic benefits. They believe that capitalization would result in assets that have arbitrary amortization periods. They cite paragraph 148 of FASB Concepts Statement No. 6, *Elements of Financial Statements*, which states that some "costs are also recognized as expenses in the period in which they are incurred because the period to which they otherwise relate is indeterminable or not worth the effort to determine."

60. Some respondents to the exposure draft believe that capitalizing the costs of computer software developed or obtained for internal use frequently results in a subsequent writeoff of those costs when they are eventually determined to not be recoverable. Thus, they believe that readers of financial statements can be misled by the initial capitalization and subsequent writeoff of those costs.

61. AcSEC considered all of these views. AcSEC believes that entities develop or obtain internal-use computer software often for the same end-purposes that they develop or obtain other assets. Examples are to reduce costs, operate more efficiently, improve internal controls, service customers better, and gain competitive advantages.

62. Paragraph 25 in FASB Concepts Statement No. 6 defines assets as "*probable* future economic benefits obtained or controlled by a particular entity as a result of past transactions or events." Footnote 18 to FASB Concepts Statement No. 6 states that "probable is used with its general meaning, rather than in a specific accounting or technical sense, . . . and refers to that which can reasonably be expected or believed on the basis of available evidence or logic but is neither certain nor proved . . . . " Paragraph 26 states: "An asset has three essential characteristics: (*a*) it embodies a probable future benefit that involves a capacity, singly or in combination with other assets, to contribute directly or indirectly to future net cash inflows, (*b*) a particular entity can obtain the benefit and control others' access to it, and (*c*) the transaction or other event giving rise to the entity's right to or control of the benefit has already occurred."

63. Paragraph 63 in FASB Concepts Statement No. 5, *Recognition and Measurement in Financial Statements of Business Enterprises*, sets forth the following criteria that should be met to recognize an item in the financial statements:

- *Definitions*—The item meets the definition of an element of financial statements.
- *Measurability*—It has a relevant attribute measurable with sufficient reliability.
- *Relevance*—The information about it is capable of making a difference in user decisions.
- *Reliability*—The information is representationally faithful, verifiable, and neutral.

64. Some proponents of capitalization of internal-use software observe that paragraph 24 of APB Opinion 17, *Intangible Assets*, requires that entities capitalize acquired intangible assets. Paragraph 24 also states that "costs of developing,

maintaining, or restoring intangible assets which are not specifically identifiable, have indeterminate lives, or are inherent in a continuing business and related to an enterprise as a whole—such as goodwill—should be deducted from income when incurred." AcSEC believes that the costs of computer software developed or obtained for internal use are specifically identifiable, have determinate lives, relate to probable future economic benefits (FASB Concepts Statement No. 6), and meet the recognition criteria of definitions, measurability, relevance, and reliability (FASB Concepts Statement No. 5).

65. AcSEC decided that it was not necessary to characterize computer software as either intangible assets or tangible assets when similar characterizations have not been made for most other assets.

66. One of the characteristics of an asset in FASB Concepts Statement No. 6 is that it must contribute directly or indirectly to future net cash inflows, thus providing probable future economic benefits. AcSEC recognizes that the specific future economic benefits related to the costs of computer software will sometimes be difficult to identify. However, AcSEC believes that this is also true for some other assets. For example, computer hardware or furniture used in back-office operations are indirectly related to future benefits. Likewise, corporate office facilities do not result in identifiable future benefits, but the facilities do support the operations of the company.

67. AcSEC also recognizes that costs of computer software developed or obtained for internal use reported as assets may be subsequently written-off due to lack of adequate funding or lack of management's continued commitment to a project. However, AcSEC believes similar changes in direction also occur for long-lived-asset projects. Regardless, AcSEC has established guidance to determine when capitalization should cease and when impairment should be recognized and measured.

68. *Preliminary Project Stage.* AcSEC believes that activities performed during the preliminary project stage of development for internal-use software are analogous to research

and development activities, and costs incurred during this stage should be expensed as they are incurred.

69. *Application Development Stage.* AcSEC believes that software development activities performed during the application development stage create probable future economic benefits. Therefore, software development costs incurred during this stage should be capitalized.

70. AcSEC believes that paragraph 24 of APB Opinion No. 17 applies to the costs of data conversion. Therefore, AcSEC believes that data conversion costs, as discussed in paragraph 22, should be expensed as they are incurred. However, AcSEC also believes that computer software developed or obtained for old and new systems interface is internal-use software that is subject to the guidance in this SOP.

71. *Post-Implementation/Operation Stage.* AcSEC believes that training costs are not software development costs and should be expensed as they are incurred because entities do not control the continued employment of the trained employees, are not able to identify the specific future period benefitted, and amortization periods would be arbitrary.

72. A number of respondents to the exposure draft said that they could not distinguish between internal costs of maintenance and upgrades/enhancements; many of those respondents requested further guidance from AcSEC. AcSEC decided that it could not provide examples that would adequately distinguish between all possible activities related to maintenance and upgrades/enhancements. As a result, AcSEC concluded that entities that cannot separate internal costs on a reasonably cost-effective basis between maintenance and relatively minor upgrades and enhancements should expense such costs as incurred.

73. AcSEC acknowledges that SOP 97-2, *Software Revenue Recognition*, defines an upgrade and enhancement, in part, as an extension of useful life. AcSEC concluded that, from the perspective of the user of the software, solely extending the software's useful life without adding additional functionality is a maintenance activity rather than an activity for which the costs should be capitalized. Accordingly, AcSEC's

criteria for determining capitalizable upgrades and enhancements focus on providing additional functionality.

74. AcSEC believes and most respondents to the exposure draft agree that entities should not have the option to expense or capitalize costs of computer software developed or obtained for internal use as those costs are incurred. FASB Concepts Statement No. 2, *Qualitative Characteristics of Accounting Information*, states the following:

> Comparability between enterprises and consistency in the application of methods over time increases the informational value of comparisons of relative economic opportunities or performance. The significance of information, especially quantitative information, depends to a great extent on the user's ability to relate it to some benchmark.

75. Capitalization should begin when (*a*) the preliminary project stage is completed and (*b*) management, with the relevant authority, implicitly or explicitly authorizes and commits to funding a computer software project and it is probable that the project will be completed and the software will be used to perform the function intended. Capitalization should cease when it is no longer probable that the computer software project will be completed and placed in service. Capitalization should cease no later than the point at which a computer software project is substantially complete and ready for its intended use. *Probable* does not require absolute certainty. *Probable* is used in the same context as it is in FASB Concepts Statement No. 6, which states that "probable is used with its general meaning, rather than in a specific accounting or technical sense, . . . and refers to that which can reasonably be expected or believed on the basis of available evidence or logic but is neither certain nor proved . . . ."

76. AcSEC used paragraph 18 of FASB Statement No. 34 as a basis for concluding that capitalization should cease no later than the point at which a computer software project is substantially complete and ready for its intended use.

77. AcSEC considered whether it should provide guidance to limit the amount of costs that could be capitalized to the amount an entity would spend to purchase a viable alternative software

product from a third party. AcSEC concluded that it could not provide practicable guidance other than the ability to recover the capitalized costs as discussed in FASB Statement No. 121. AcSEC believes that many entities will not be able to identify a third-party software product that is comparable to the entity's internal-use software. In addition, AcSEC believes that many entities would incur undue costs in trying to determine what is a viable alternative software product.

78. AcSEC believes that it would be desirable for the costs of internally developed computer software (whether developed by employees or per diem independent contractors) that are capitalized to be accounted for no differently than the capitalized costs of purchased software (whether the software is obtained retail or developed by outside consultants for a flat fee or price). AcSEC acknowledges, however, that certain costs of internally developed software will be expensed as research and development whereas a portion of the research and development costs incurred by a third party will be capitalized by the purchasing entity because the third party's research and development costs are implicitly part of the acquisition price of the software. AcSEC noted that similar differences exist elsewhere; for example, the costs of acquiring a patent are usually capitalized and the costs of developing a patent are usually expensed as incurred.

79. AcSEC believes that users of financial information will find the results of this SOP useful. AcSEC believes that the marketplace inherently considers the technological capabilities, including software, of many entities when it establishes market values. This SOP provides a reasonable methodology to record the costs of internal-use software. In addition, AcSEC believes that the disclosures required by existing authoritative literature are sufficient to help users make informed decisions.

Capitalizable Costs

80. AcSEC used SOP 93-7, *Reporting on Advertising Costs*, and FASB Statement No. 91, *Accounting for Nonrefundable Fees and Costs Associated with Originating or Acquiring Loans and Initial Direct Costs of Leases*, as a basis for

determining the kinds of costs of computer software developed or obtained for internal use that should be included in amounts reported as assets. AcSEC recognizes that the costs of some activities, such as allocated overhead, may be part of the overall cost of assets, but it excluded such costs because it believes that, as a practical matter, costs of accumulating and assigning overhead to software projects would generally exceed the benefits that would be derived from a "full costing" accounting approach. AcSEC considered that costing systems for inventory and plant construction activities, while sometimes complex, were necessary costs given the routine activities that such systems support. Overhead costs associated with a particular internal-use software development project could be even more complex to measure than production overhead and, as they most often represent an allocation among capitalizable and expensed functions, may not be sufficiently reliable. Moreover, certain users commented that they believe that overhead costs had little relationship to the value of software. In light of such apparently high costs, modest benefits, and the view of some users that such costs should be expensed, AcSEC chose to analogize to advertising costs and FASB Statement No. 91 and to require such costs to be expensed as incurred.

Multiple-Element Software Arrangements Included in Purchase Price

81. This SOP requires that, when a software arrangement includes multiple elements, entities should estimate the fair value of those multiple elements and exclude the fair value of the appropriate elements from the capitalized cost of the software. This approach is consistent with the treatment of executory costs that are included in a lease payment to a lessor, but which are not specified in the lease agreement. Paragraph 10 of FASB Statement No. 13, *Accounting for Leases*, requires the lessee to make an estimate of the executory costs and exclude that amount from the minimum lease payments. The treatment of the costs of the multiple elements specified here is consistent with those provisions.

82. In addition, AcSEC believes that the guidance related to recognizing combined maintenance and unspecified upgrade/enhancement fees over the contract period is consistent with paragraph 3 in FASB Technical Bulletin No. 90-1, *Accounting for Separately Priced Extended Warranty and Product Maintenance Contracts.*

83. The SOP requires that entities allocate costs based on relative fair values. AcSEC decided that the SOP should be consistent with SOP 97-2, *Software Revenue Recognition*, though vendor-specific information is not as relevant to this SOP.

Impairment

84. AcSEC considered whether there were any alternatives to following FASB Statement No. 121 for impairment of internal-use computer software. AcSEC concluded that internal-use computer software is a long-lived asset covered by FASB Statement No. 121.

85. Paragraphs 7, 8, 10, and 15 of FASB Statement No. 121 are the basis for the guidance in this SOP on accounting for internal-use computer software that is not expected to provide substantive future service potential to an entity.

86. AcSEC concluded that when it is no longer probable that computer software being developed will be completed and placed in service, the asset should be reported at the lower of carrying amount or fair value, if any, less costs to sell, in accordance with FASB Statement No. 121. AcSEC believes that uncompleted internal-use computer software is not likely to have any fair value (measured in accordance with paragraph 7 of FASB Statement No. 121).

87. A number of respondents to the exposure draft requested that AcSEC provide more guidance and/or examples of how to recognize and measure impairment of internal-use computer software. AcSEC concluded that there are broader implications to this request and that if further guidance on impairment is to be provided, it should be provided by the FASB.

Amortization

88. AcSEC used Accounting Research Bulletin No. 43, *Restatement and Revision of Accounting Research Bulletins*, chapter 9, section C, and APB Opinion 17 as a basis for its conclusions on amortization. AcSEC decided not to specify a maximum amortization period because each entity is better able to determine an appropriate useful life.

Internal-Use Computer Software Marketed

89. The SOP requires that entities use the cost recovery method of accounting for internal-use computer software subsequently marketed. AcSEC believes that this method will provide a reasonable reporting outcome for instances in which enterprises find that internally developed software can meet a market demand.

Disclosures

90. In the spirit of minimizing less relevant disclosures, AcSEC decided not to include any new disclosures in the exposure draft (though entities are required to follow disclosure requirements set forth in existing authoritative literature). AcSEC continues to believe that existing authoritative literature requires adequate disclosures to help meet financial statement user needs.

Effective Date and Transition

91. AcSEC believes that the transition guidance in the SOP should be comparable to that contained in FASB Statement No. 86. Some enterprises that develop or purchase software for internal use currently expense those costs as incurred. AcSEC believes that the costs of developing the information that would be necessary to determine the amounts that would be capitalized if this SOP were to be applied retroactively would exceed the benefits retroactive application might offer and that such a retroactive determination should not be made. However, AcSEC decided to permit but not require application in financial statements for a fiscal year for which annual financial statements have not been issued. AcSEC further concluded

that costs capitalized before the application of this SOP should be subject to the impairment and amortization provisions in this SOP, but should not otherwise be adjusted to an amount that would have been capitalized had this SOP been applied. Amortization and impairment of previously capitalized costs in accordance with the provisions of this SOP should result in an acceptable level of comparability and understandability.

92. AcSEC considered whether it should provide materiality thresholds to determine when an entity should follow the guidance in this SOP. AcSEC decided not to do so because it believes an entity can best determine the materiality of internal-use computer software costs in its individual circumstances.

APPENDIX

Examples

Examples Illustrating When Computer Software Is for Internal Use

1. A manufacturing entity purchases robots and customizes the software that the robots use to function. The robots are used in a manufacturing process that results in finished goods.

2. An entity develops software that helps it improve its cash management, which may allow the entity to earn more revenue.

3. An entity purchases or develops software to process payroll, accounts payable, and accounts receivable.

4. An entity purchases software related to the installation of an online system used to keep membership data.

5. A travel agency purchases a software system to price vacation packages and obtain airfares.

6. A bank develops software that allows a customer to withdraw cash, inquire about balances, make loan payments, and execute wire transfers.

7. A mortgage loan servicing entity develops or purchases computer software to enhance the speed of services provided to customers.

8. A telecommunications company develops software to run its switches that are necessary for various telephone services such as voice mail and call forwarding.

9. An entity is in the process of developing an accounts receivable system. The software specifications meet the company's internal needs and the company did not have a marketing plan before or during the development of the software. In addition, the company has not sold any of its internal-use software in the past. Two years after

completion of the project, the company decided to market the product to recoup some or all of its costs.

10. A broker-dealer entity develops a software database and charges for financial information distributed through the database.

11. An entity develops software to be used to create components of music videos (for example, the software used to blend and change the faces of models in music videos). The entity then sells the final music videos, which do not contain the software, to another entity.

12. An entity purchases software to computerize a manual catalog and then sells the manual catalog to the public.

13. A law firm develops an intranet research tool that allows firm members to locate and search the firm's databases for information relevant to their cases. The system provides users with the ability to print cases, search for related topics, and annotate their personal copies of the database.

Examples Illustrating When Computer Software Is *Not* for Internal Use

14. An entity sells software required to operate its products, such as robots, electronic game systems, video cassette recorders, automobiles, voice-mail systems, satellites, and cash registers.

15. A pharmaceutical company buys machines and writes all of the software that allows the machines to function. The pharmaceutical company then sells the machines, which help control the dispensation of medication to patients and help control inventory, to hospitals.

16. A semiconductor entity develops software embedded in a microcomputer chip used in automobile electronic systems.

17. An entity purchases software to computerize a manual catalog and then sells the computer version and the related software to the public.

18. A software company develops an operating system for sale and for internal use. Though the specifications of the software

meet the company's internal needs, the company had a marketing plan before the project was complete. In addition, the company has a history of selling software that it also uses internally and the plan has a reasonable possibility of being implemented.

19. An entity is developing software for a point-of-sale system. The system is for internal use; however, a marketing plan is being developed concurrently with the software development. The plan has a reasonable possibility of being implemented.

20. A telecommunications entity purchases computer software to be used in research and development activities.

21. An entity incurs costs to develop computer software for another entity under a contract with that other entity.

SCHEDULE 11

Schedule 11

HC in its entirety

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